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ABSTRACT

This booklet examines seven planning and decision-making tips for investing in and building tennis courts that can prolong court life and get the most from the investment. It examines defining needs, developing a budget, considering the use of a consultant, choosing a site, choosing a surface and developing working specifications, making specific choices regarding amenities and accessories to be included in the tennis court project, and hiring a qualified contractor. Tennis court surface classifications are also examined. The booklet concludes with lists of tennis organizations and design professionals. (GR)

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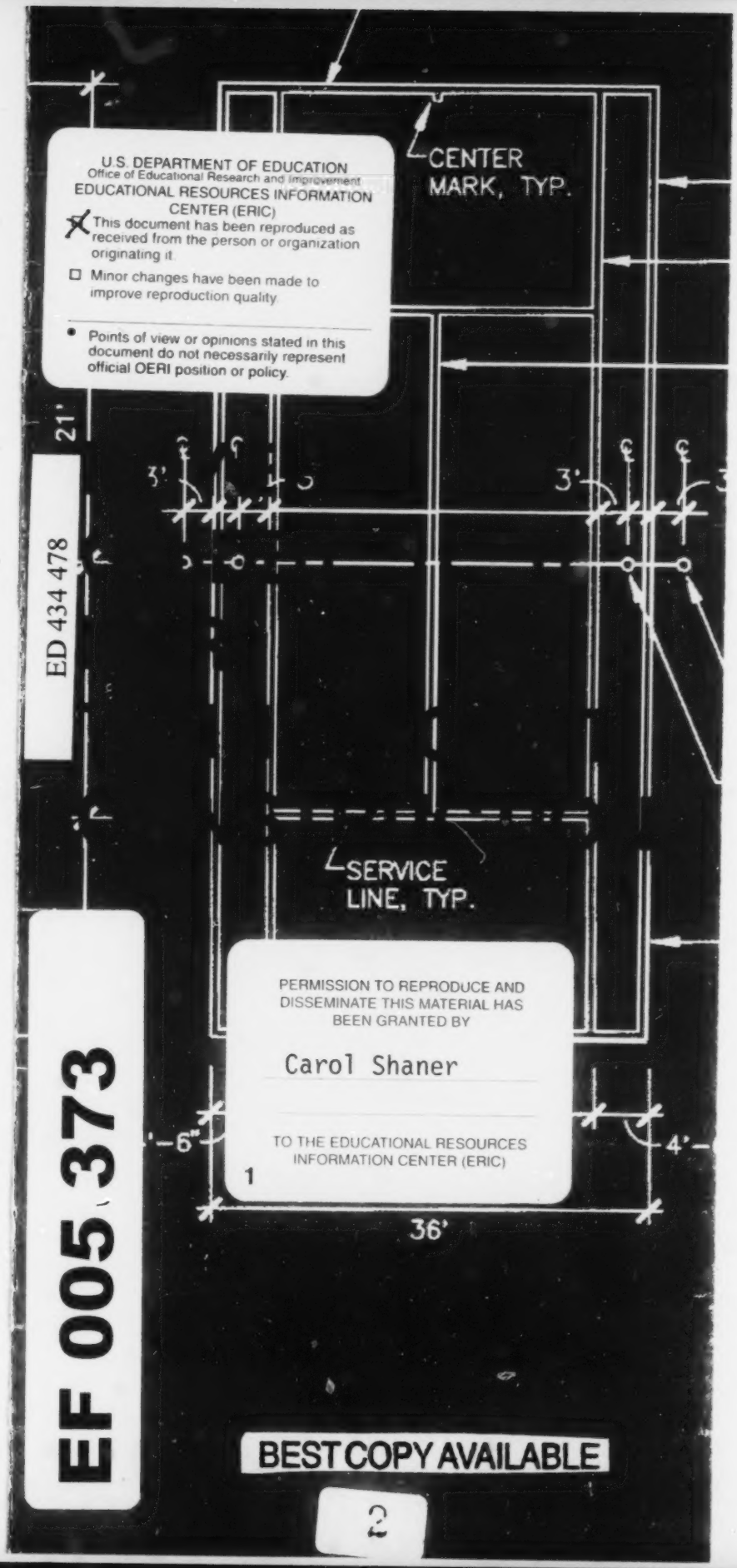

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The decision has been made: you want a tennis court. What comes next? Often the answer is confusion. Suddenly, you are overwhelmed by the many decisions that face you. You need help defining your options and making appropriate choices.

The United States Tennis Court & Track Builders Association (USTC&TBA) can help. Founded in 1965, the USTC&TBA is the trade association for builders, consultants and design professionals who specialize in the construction and maintenance of sports facilities, particularly tennis courts and running tracks. Manufacturers and suppliers of materials, members of the trade press and others interested in tennis court and track construction participate as well. Its membership includes individuals and companies in the United States and around the world. Its goal is to encourage and to uphold high standards of tennis court and running track construction. To this end, the Association offers informative materials to those about to embark on tennis court and track construction projects. These include technical and consumer-oriented publications, including a series of guideline specifications which are regarded as the industry standards for track and tennis court construction. Information on obtaining these and other USTC&TBA publications is included with this Buyer's Guide.

Whether you are building a tennis court for residential use, for a private club, for a resort facility or for a public project, the decisions you make should not be taken lightly. The investment in a court is substantial; however, a well-constructed court, properly maintained, can provide years of playing enjoyment. To get the most out of your investment, be a smart consumer. Do your homework before you begin construction. The reward will be the right court at the right price. Here are some suggested steps.

1. Define your needs.

Long before you begin considering specific surfaces or contacting design professionals or looking for a qualified contractor, you should develop a clear definition of the project. Are you building one court or many? Are you interested in hard courts, cushioned courts or soft courts? Will the courts be staffed or unattended? How much time and money is available for court maintenance? Will courts be used for competition or for casual play? Are you building for year-round or seasonal use? There are many types of

courts available today, and surface technology is constantly changing. No one type of court is right for every installation. There are tremendous variances in cost, durability, playing characteristics, maintenance needs, weather resistance and other factors. What is right for a residential court may not be right for a private club. What is right for a site in Arizona may not be right for a project in Maine. As a first step, it is important for the owner to define the priorities and expectations of the court to be installed.

2. Develop a budget.

How much can you afford to spend? Developing a budget may be the most difficult step in the construction process. You may have to make some concessions, but in order to make informed choices, you should know what is important to you. Do you need a completed facility now or can you wait a while for landscaping, court amenities and other finishing touches? Do you want a first class facility regardless of cost, or is cost a limiting factor? Are you absolutely certain about a given surface, or type of fencing, or specific site, or are you willing to consider substitutions? Once you see the number of wonderful options available in today's tennis court market, it may be easy to spend far more than you had in mind. Working within a budget involves considering various alternatives and making choices, but choices don't have to mean compromising the end result. A knowledge of what factors are most important to the court you are planning and a desire to seek creative solutions can bring the project in at a reasonable cost.

The USTC&TBA can supply a number of publications which can help you learn about these choices in order to assess your needs. A number of other professional organizations and trade magazines also can supply answers. See the reference section of this Buyer's Guide for suggested resources.

3. Consider a consultant.

It may be desirable to employ a consultant to assist in planning, building or renovating a court facility. Depending on the scope of the project, employing the services of an expert can actually help control job costs by better translating the needs of the owner into proper direction for construction, and by helping to avoid costly mistakes. A pro-

fessional architect, engineer or landscape architect, or a knowledgeable contractor, trained and experienced in tennis court construction, will help you identify your needs and refine the information to the specific requirements of your site. A consultant can assist you in determining the scope of work to be included in the job, in planning the facility, in determining a realistic budget for the project, in evaluating and comparing bids, in overseeing the work in progress and in solving any problems which occur during construction.

In employing professional assistance, however, it is important to consider the experience of your consultant. Tennis court construction is a highly specialized field which is undergoing constant change. It is important to employ an individual or firm with extensive current experience in the field of tennis court construction.

How do you locate qualified professionals? One way to do so is by contacting professional associations such as the U.S. Tennis Court & Track Builders Association (USTC&TBA), the American Society of Landscape Architects (ASLA), the American Institute of Architects (AIA) and the National Society of Professional Engineers (NSPE). See the reference section of this Buyer's Guide for addresses of these organizations.

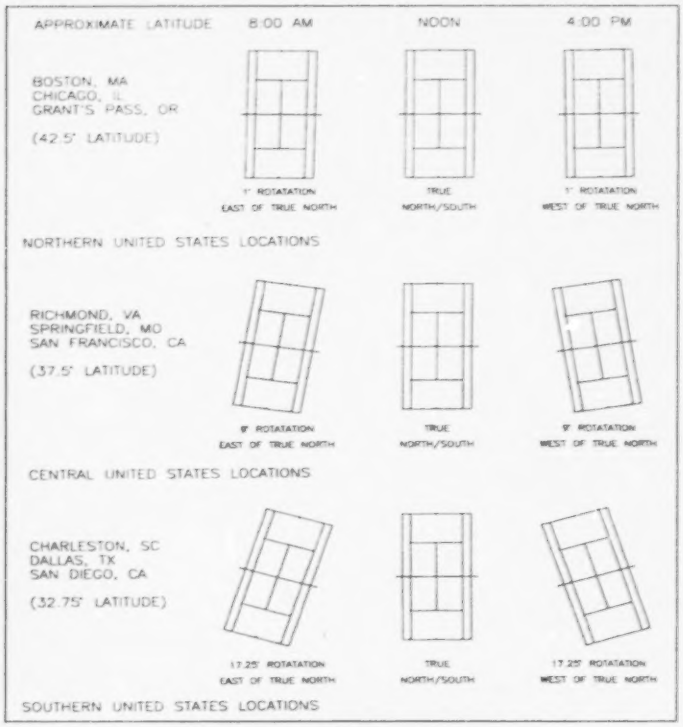
Another way to find a qualified professional is by contacting colleagues who have recently completed similar projects and asking for a recommendation. In any case, when you contact a prospective design consultant, be sure to ask questions about the firm's experience in tennis court design. Ask about completed projects and past clients. Contact references and visit completed projects. Ask for proposals and compare them carefully. Be sure you understand what is and what is not included in the proposed contract. Finally, once you choose a professional consultant, carefully negotiate fees and services and be sure to secure a signed letter of agreement or contract which clarifies all aspects of your arrangement.

4. Choose a site.

Where will you build? Is your proposed site appropriate for a tennis court? Before you get too far along in planning, be certain that you have an acceptable site. An experienced contractor or design professional can help you to assess your proposed site, but the following general considerations

should be met:

- For an individual court, the outside playing dimensions are 36' X 78' for doubles, 27' X 78' for singles. An overall site of at least 60' X 120' is strongly recommended. Where space is limited, the minimum overall dimensions which are acceptable for play are 56' X 114'. For a battery of courts, a 24' separation between courts is recommended, while 12' is considered the absolute minimum.



TENNIS COURT ORIENTATION

- The orientation, or direction in which the court is to be constructed, should be considered at this point. Generally, *the hours of use* for the court, and the *geographic* area in which it is to be built, will determine its orientation. If the court is to be used consistently throughout the day, a true north-south orientation is recommended as the best compromise between the extremes of early morning and late afternoon solar angles. Geography comes into the equation because it determines the playing season. Courts in the northern United States, for example, are generally used from late April to October, Therefore, northern courts usually are oriented according to the summer solstice which is approximately mid-season and, therefore, an average

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of the varying solar angles during this period. In the southern United States, the milder climate allows for play year round. For this reason, southern courts often are oriented according to either the spring or fall equinox, again an average of the varying solar angles. More specific orientation is possible, such as is the case with collegiate facilities, where a substantial amount of play would take place in the spring, and mostly in the afternoon hours. Should this be the case, the court should be oriented west of south for the months of April and May to minimize conflict with the afternoon sun.

- Ground should be reasonably level, preferably on the same plane or higher than adjacent land, to allow drainage away from the courts.

- The site should be sheltered from prevailing winds, away from traffic noise and other distractions, and devoid of shadows cast by buildings or trees.

- A dark, solid background is desirable. Light backgrounds, such as white buildings, or moving backgrounds, such as people or traffic, should be avoided at the ends of the court. Landscaping or windscreens can be used to screen out inappropriate backgrounds.

Subsoil stability and drainage conditions are important to tennis court construction. Many sites may not require extensive site investigation. In some cases, shallow hand dug test pits, auger borings or backhoe excavation can reveal conditions which may cause potential problems. The presence of certain conditions, however, mandates more careful site investigation. These include: 1) peat or organic soils; 2) uncontrolled fill materials or waste materials; 3) expansive soils; and 4) high ground water. Special usage of courts, such as conversion to an ice rink over winter, will also require additional site review.

5. Choose a surface and develop working specifications.

The single most important choice in planning a tennis court is the type of surface. Today, there are many choices. There is no *right surface*, but there may be a *right surface for you*, given your financial resources, level of usage, preferred style of play, location, and maintenance capability. Learning about prospective surfacing systems

and choosing the best system for your circumstances are the keys to long term satisfaction.

Classification of Tennis Court Surfaces

To give you some idea of the number of choices available to a prospective owner, the USTC&TBA classifies tennis court surfaces as follows:

Porous Construction

Fast Dry
Clay
Natural Grass
Sand-Filled Synthetic Turf Over Porous Base
Porous Asphalt
Porous Concrete
Modular

Non-Porous Construction

(Non-Cushioned)
Reinforced and Post-Tensioned Concrete
Hot Plant Mix Asphalt
Asphalt Penetration Macadam

Non-Porous Construction

(Cushioned)
Polymer Bound Systems
Textiles
Sand-Filled Synthetic Turf Over Non-Porous Base
Portable

Within each classification, there are additional choices for the owner—brand names, court speed, etc. Each type of surface has advantages and disadvantages. The choice of surface should be made carefully.

Tennis players, however, more commonly classify tennis courts as "hard courts" or "soft courts".

A hard court is one made of asphalt or concrete, usually covered with an acrylic coating. The coating protects the

court from the elements, enhances its appearance, and affects the playing characteristics of the court. Generally, a hard court yields what is known as a 'fast' game, meaning that a tennis ball bounces off the court surface at a low angle. The speed and angle of the tennis ball coming off a bounce are determined by the power and spin of the hit and are relatively unaffected by the surface of the court. This speed, however, can be adjusted depending on the amount, type and size of sand used in the color coating. "Slow" playing, textured surfaces are available.

Properly installed, hard courts are generally considered to be durable and to require relatively low maintenance. Installation costs range from $18,000 - $40,000, depending upon the specific construction.

When a resilient layer (or layers) of cushioning material is applied over an asphalt or concrete court, a cushioned court results. Cushioned courts usually have excellent playing characteristics and an all-weather surface for year round play. These attributes make them popular with players but such courts are considerably more expensive than hard courts; cushioning adds $5,000 - $25,000 to the cost of the court, over and above the cost of the asphalt or concrete base.

Soft courts, including clay, fast dry, grass and sand-filled synthetic turf, are entirely different from their hard counterparts. They are quite popular with players because they are easy on feet, back and legs. They generally provide a cool, glare-free surface. With the exception of grass and synthetic turf, they produce 'slow' play which lends itself to a strategy game which many club players enjoy. Grass and synthetic turf produce a fast game and, according to some experts, lend themselves to the largest variety of tennis strokes. In some areas, fast dry, clay and grass courts are less expensive to construct than hard courts, but they require daily care and, for clay and fast dry courts, annual repair and/or resurfacing. Soft courts are easily damaged, but also easily repaired. These courts usually must be closed for the winter in colder climates.

The USTC&TBA can supply a number of publications which provide additional information on tennis court surfaces, their specific playing characteristics, approximate

(Continued on page 10)

TRUE PLANE
SLOPE
REQUIREMENTS:

SIDE TO SIDE

END TO END

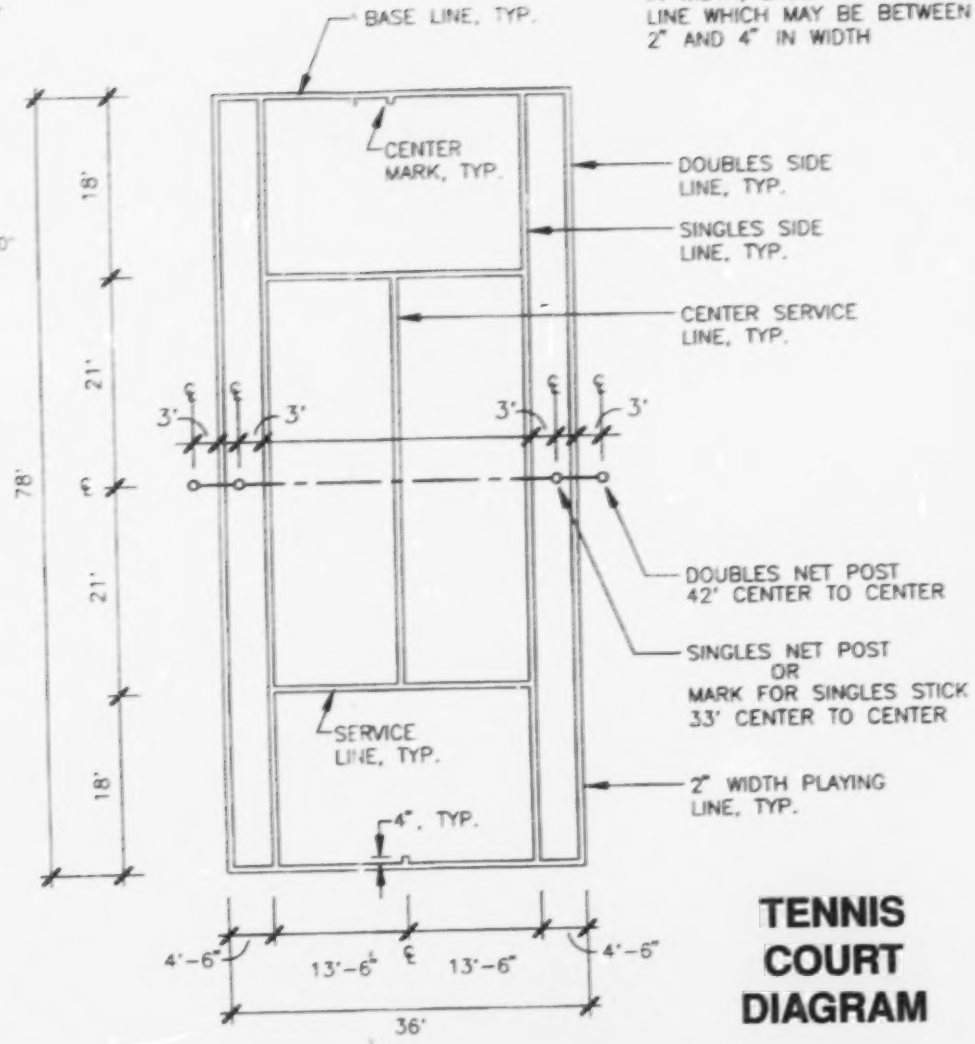
DIAGONAL

1" IN 20'-0" TO 1" IN 30'-0"
FAST DRY COURTS

1% MAXIMUM
HARD COURTS

NOTES:
ALL DIMENSIONS ARE TO THE OUTSIDE EDGE OF LINES.

ALL PLAYING LINES ARE 2" IN WIDTH, EXCEPT THE BASE LINE WHICH MAY BE BETWEEN 2" AND 4" IN WIDTH



TENNIS COURT DIAGRAM

cost and maintenance considerations. See the publications order form included with this brochure for ordering information.

Once a surface is chosen, you should draft specifications. The more specific and detailed your specifications, the more likely that prospective builders will submit comparable bids. Specifications should outline the scope of work, including the subbase and base preparation, materials and hardware to be provided. Be sure to make clear in your specifications whether particular materials are required, or whether substitutions or equivalents are acceptable. Specifications also should detail the amounts of materials to be used. The USTC&TBA can provide guidelines for use in drafting specifications for a project. For larger projects, it may be advisable to utilize a design professional or consultant to assist in developing specifications.

6. Make specific choices regarding amenities and accessories to be included in your tennis court project.

A fine tennis court begins with a well-built base and a quality surface, but it doesn't end there. Even a very well-built facility may still lack the features that make it a pleasure for players to use. Tennis court accessories are those items, not part of the actual court construction, which are necessary or highly desirable for the use or maintenance of the court. They include net posts and nets, lighting, fencing, windscreens, divider curtains and maintenance equipment. When a court is used for serious competition, a number of additional items of equipment are required or desirable. Tennis court amenities are those items that set a tennis court apart from the ordinary and make it really comfortable and pleasurable to use. Amenities include items like benches, back boards, drinking fountains, spectator seating, landscaping, etc. Which of these items will be included in your construction project? You may choose to contract out for a "turnkey" project, or you may act as your own general contractor, choosing various companies to supply parts of the project: base construction, surface, fencing, lighting, etc. Before you seek bids, you need to carefully define the scope of the project and develop a clear set of construction documents.

7. Hire a qualified contractor.

Choosing the right contractor can determine the ultimate success of your tennis facility. A knowledgeable and experienced contractor can help you, the owner, make the right decisions resulting in a quality project. Tennis court construction is a highly specialized field within the construction industry. It is vital that the contractor you choose be familiar with the current marketplace, as well as with the type of surface you intend to install.

How do you find a qualified contractor? One way is to contact the USTC&TBA. As the trade association for tennis court builders, the USTC&TBA can provide a directory of its member contractors. In addition, the USTC&TBA conducts a certified builder program. Experienced contractors earn the Certified Tennis Court Builder (CTCB) designation by completing a number of projects and by passing a certification examination. CTCBs must recertify every three years. The Association also conducts an inquiry program, requesting information on your behalf from contractors and suppliers who have the answers to your questions.

Another way to locate such specialists is by consulting tennis clubs, municipal facilities and schools, as well as individuals, who have recently completed tennis court projects. Ask whether or not they would recommend their contractor and, further, ask some specific questions. Was the job completed on time? Did it meet the owner's expectations? Were there any hidden costs? Was the contractor able to solve any problems which arose during construction? If there have been any post-construction problems, was the builder responsive in taking care of them? How does the court look? How does it play? Remember, both experience and reliability of the prospective builder are important.

Once you have the names of a few builder prospects, consider the following:

- How many years has the company been in business? If it is a relatively new company, what is the work experience of its principals? How many courts have they built? Were they responsible for the complete project, just for surfacing, just for site work? Look for individuals or for a company with specific knowledge and experience in tennis court construction.

- Does the company have experience in the type of project you contemplate? Has it built residential courts or club projects, hard courts or soft? Look for a company with experience in projects similar in size and scope to yours.

- Ask for references and for a complete list of recent projects. If a significant project is omitted from the list of references, there may be a reason for that omission. Call references and ask questions. Determine as much information as you can about a prospective contractor's knowledge, experience, workmanship, ability to meet schedules, financial responsibility, and accountability. If possible, visit completed projects and talk to owners.

- Get references from design professionals, subcontractors, bankers and bonding companies.

- Ask about a contractor's insurance; have there been any major accidents or claims against the builder?

- Ask about awards and recognition. Has the contractor won any awards for his work? Is he certified or accredited by any trade organization?

- Check on lawsuits. If the contractor has been or is currently involved in litigation, find out the details. Check with your local Better Business Bureau, or with any local licensing agency, for consumer complaints.

- Ask to meet the individuals who will be involved with your project, particularly the job superintendent. Does the contractor/superintendent seem knowledgeable about size requirements, orientation and slope of tennis courts? Does he understand grading, drainage, site preparation and base materials? Is he familiar with different tennis court surfaces? Can he make recommendations regarding specific court surfaces for your needs? Is he familiar with amenities and accessories including fencing, lighting, nets, net posts and windscreens? Is he a Certified Tennis Court Builder (CTCB) or a member of the U.S. Tennis Court & Track Builders Association? What is his current workload; can he realistically handle your project within a reasonable time frame?

- Consider communication. You want a contractor who listens to you and responds to your needs. You want someone with whom you feel comfortable, someone with whom you can establish rapport. You want a contractor who will build the facility you want, not one who will build his standard court and move on. You want a contractor in whom you have confidence. Don't underestimate the value of a good working relationship.

- Ask for proposals in writing and compare them carefully. Ensure that the bids, including products to be used and methods of construction, are equivalent to your specifications. What is included and what is not included in the contract price? Who—contractor or owner—is responsible for such items as permits, site preparation, electric power, taxes, insurance, removal and replacement of trees and shrubbery? Such items, while essential to the project, may or may not be included in the bid; whether or not they are included can significantly affect the contract price and the overall project cost. Even if construction materials and methods are identical and items included in the contract are consistent, look beyond price when comparing proposals. Compare proposed construction schedules, progress payments, and most importantly, guarantees and warranties. Be sure that you understand what is included in any guarantee—materials, workmanship or both—and for how long. Rank the proposals and then attempt to negotiate a contract with your first choice builder. While price is not the only consideration, if the bid of your preferred contractor seems high, try to negotiate a lower price or additional services into the package to make the higher bid more attractive.

- Once you have chosen a contractor, confirm your agreement in writing. The contract documents, signed by both owner and contractor, should be as specific as possible and should include, where appropriate, an agreement, conditions of the contract, drawings and specifications defining the scope of work including labor, materials, equipment and transportation to produce the project.

- Consider appropriate bonding, which may depend upon the size of the project. You may ask for a bid

bond, a performance bond and/or a payment bond. Also, you may want to ask for a certificate of insurance as proof that your chosen contractor has adequate insurance coverage.

If you, the buyer, are to make the right decisions regarding a tennis court project, becoming a knowledgeable consumer is the first step. Asking questions is not only smart, it is essential. The investment of time and energy now can yield a huge return in the future, in terms of a quality facility, and in the hours of enjoyment that will be derived from it. The USTC&TBA is committed to providing information to assist you in making informed choices in order to promote the construction of quality tennis facilities. For more information, contact the USTC&TBA at 3525 Ellicott Mills Drive, Suite N, Ellicott City, Maryland 21043-4547, or consult our website at www.ustctba.com.

SOURCES OF INFORMATION

U.S. Tennis Court & Track Builders Association
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Ellicott City, MD 21043-4547
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FAX (410) 418-4805
www.ustctba.com

Tennis Organizations

Tennis Buyer's Guide
5520 Park Avenue
P. O. Box 395
Trumbull, CT 06611
(203) 373-7232
(203) 373-7170

Tennis Industry Magazine
275 Fair Street, Suite 16
Kingston, NY 12401
(212) 242-3687
(212) 741-8871

United States Tennis Association
70 W. Red Oak Lane
Harrison, NY 10528
(914) 696-7000
Fax: (914) 696-7167

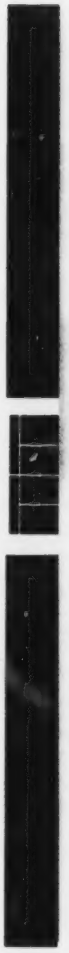
Design Professionals

American Institute of Architects
1735 New York Avenue, NW
Washington, DC 20006-5292
(202) 626-7568

American Society of Landscape Architects
636 I Street, N.W.
Washington, DC 20001-3736
(202) 898-2444

The Construction Specification Institute
601 Madison Street
Alexandria, VA 22314-1791
(703) 684-0300

National Society of Professional Engineers
1420 King Street
Alexandria, VA 22314-2750
(703) 684-2800



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HELP US HELP YOU!

Please provide the following information or assistance:

I am interested in:

_____New construction

_____Renovation of an existing facility

Location:

____Residential ____Municipal/Public ____School

____Club ____Resort/Hotel ____Other: _____

Type of court:

____Asphalt ____Concrete ____Clay or fast dry

____Sand-filled Turf ____Grass

How many?: _____

Approximate date work should begin: _____

Open for bids? _____Yes _____No

Design firm selected? _____Yes _____No

Contractor selected? _____Yes _____No

Need information on:

_____ Professional design or consultation services?

_____ Construction?

_____ Repair/Maintenance?

_____ Surfacing Systems?

_____ Fencing?

_____ Lighting?

_____ Amenities and Accessories?

_____ Other:_____

_____

_____

_____

Name:_____

Company/Organization:_____

Address:_____

City:_____ State:_____ Zip:_____

Phone:_____ FAX:_____

E-Mail:_____

How did you hear about USTC&TBA?

____ Ad in publication (Title:_____)

____ Internet ____ Colleague ____ USTA

____ NFSHSA ____ Other:_____

The USTC&TBA makes no representation regarding the ability or performance of any individual member.

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